

AD-A023 164

SPECIAL DATA COLLECTION SYSTEM (SDCS) EVENT
REPORT, NORTHERN COLUMBIA, 23 JUNE 1975

K. J. Hill, et al

Teledyne Geotech

Prepared for:

Defense Advanced Research Projects Agency

January 1976

DISTRIBUTED BY:

NTIS

National Technical Information Service
U. S. DEPARTMENT OF COMMERCE

112034

SDCS-ER-75-47

J
(1)

SPECIAL DATA COLLECTION SYSTEM EVENT REPORT
Northern Colombia, 23 June 1975

K.J. Hill, M.S. Dawkins, and R.R. Baumstark
Alexandria Laboratories

Teledyne Geotech, 314 Montgomery Street, Alexandria, Virginia 22314

January 1976

APPROVED FOR PUBLIC RELEASE; DISTRIBUTION UNLIMITED.

Sponsored By

The Defense Advanced Research Projects Agency
Nuclear Monitoring Research Office
1400 Wilson Boulevard, Arlington, Virginia 22209
ARPA Order No. 2897

Monitored By

VELA Seismological Center
312 Montgomery Street, Alexandria, Virginia 22314

REPRODUCED BY
NATIONAL TECHNICAL
INFORMATION SERVICE
U.S. DEPARTMENT OF COMMERCE
SPRINGFIELD, VA. 22161



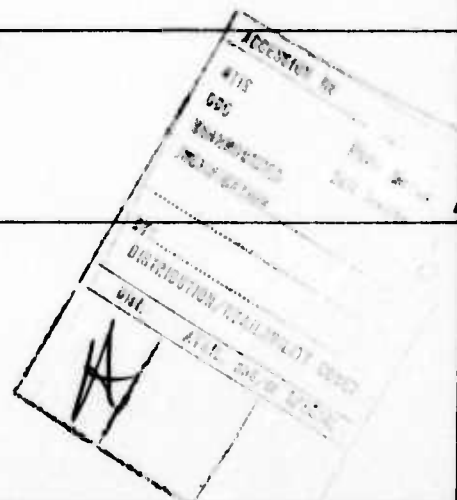
AD A023164

Disclaimer: Neither the Defense Advanced Research Projects Agency nor the Air Force Technical Applications Center will be responsible for information contained herein which has been supplied by other organizations or contractors, and this document is subject to later revision as may be necessary. The views and conclusions presented are those of the authors and should not be interpreted as necessarily representing the official policies, either expressed or implied, of the Defense Advanced Research Projects Agency, the Air Force Technical Applications Center, or the US Government.

Unclassified

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER SDCS-ER-75-47	2. GOVT ACCESSION NO.	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) SPECIAL DATA COLLECTION SYSTEM (SDCS) Northern Colombia, 23 June 1975		5. TYPE OF REPORT & PERIOD COVERED Technical
7. AUTHOR(s) Hill, K. J., Dawkins, M. S., Baumstark, R. R.		6. PERFORMING ORG. REPORT NUMBER
9. PERFORMING ORGANIZATION NAME AND ADDRESS Teledyne Geotech 314 Montgomery Street Alexandria, Virginia 22314		8. CONTRACT OR GRANT NUMBER(s) F08606-74-C-0013
11. CONTROLLING OFFICE NAME AND ADDRESS Defense Advanced Research Projects Office Nuclear Monitoring Research Office 1400 Wilson Blvd.-Arlington, Virginia 22209		10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS T/4703
14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office) VELA Seismological Center 312 Montgomery Street Alexandria, Virginia 22314		12. REPORT DATE 6 January 1976
		13. NUMBER OF PAGES 21
		15. SECURITY CLASS. (of this report) Unclassified
		15a. DECLASSIFICATION DOWNGRADING SCHEDULE
16. DISTRIBUTION STATEMENT (of this Report) APPROVED FOR PUBLIC RELEASE; DISTRIBUTION UNLIMITED.		
17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)		
18. SUPPLEMENTARY NOTES		
19. KEY WORDS (Continue on reverse side if necessary and identify by block number)		
20. ABSTRACT (Continue on reverse side if necessary and identify by block number)		



SDCS EVENT REPORT NO. 47

Northern Colombia, 23 June 1975

This event report contains seismic data from the Special Data Collection System (SDCS), and other sources for the above event. Published epicenter information from seismic observations is:

	"P" Arrival	Origin Time	Lat.	Long.	m_b	M_s
NORSAR	05:34:47.3	05:22:40	07 N	072 W	4.4	N/A
LASA	05:31:19.0	05:22:27	05.0N	073.5W	5.0	N/A

Using SDCS stations, LASA and NORSAR, the epicenter location and magnitudes become

05:22:26.1 05.8N 073.1W 4.7 N/A

All SDCS stations were operational during this period.

Short-period signals associated with this event were recorded at all SDCS stations, LASA and NORSAR. Horizontal SP channels at all SDCS stations were rotated.

No long-period signals were recorded at the SDCS stations, ALPA, LASA and NORSAR. Horizontal LP channels at WH2YK, FN-WV, CPSC and HN-ME were rotated. At RK-ON horizontal LP channels were not rotated because of numerous data spikes on the LP transverse channel. Long-period signal arrival at NORSAR was masked by signal arrival from North Atlantic Ridge event. Validity of the ALPA, LASA and NORSAR long-period vertical beams is uncertain, horizontal radial channels were not recoverable and data recovered for the transverse channels are questionable.

Scaling factors on plots are millimicrons at 1 Hz (not corrected for instrument response) with the exception of IASA and NORSAP short-period plots. LASA SP scaling factors are millimicrons per inch. Scaling factors are not reported for NORSAR short-period.

STATION DESCRIPTION

SITE CODE	LOCATION	SITE COORDINATES		ELEVATION METERS	INSTRUMENTATION	
		DEG	MIN SECS		SHORT-PERIOD	LONG-PERIOD
ALPA	Alaska	65 14	00.0 N	626	None	31300
		147 44	36.0 W			
CPSO	McMinnville, Tennessee	35 35	41.4 N	574	6480 V 7515 H	SL210 V SL220 H
		085 34	13.5 W			
FN-WV	Franklin, West Virginia	38 32	58.0 N	910	KS36000	KS36000
		079 30	47.0 W			
LASA	Billings, Montana	46 41	19.0 N	744	HS10	7505A V 8700C H
		106 13	20.0 W			
HN-ME	Houlton, Maine	46 09	43.0 N	213	18300	SL210 V SL220 H
		067 59	09.0 W			
NORSAR	Kjeller, Norway	60 49	25.4 N	379	HS10	7505A V 8700C H
		010 49	56.5 E			
RK-ON	Red Lake, Ontario	50 50	20.0 N	366	18300	SL210 V SL220 H
		093 40	20.0 W			
WH2YK	White Horse, Yukon	60 41	41.0 N	855	18300	SL210 V SL220 H
		134 58	02.0 W			

Note: The orientation of the radial instruments at FN-WV is assumed to be 316° + 5° based on empirical data (event recordings). Rotation, where performed, is referenced to this azimuth and may be questionable.

HYPOCENTER DETERMINATION

INPUT FOR EVENT 23 JUN 75
05:22:27.0 5.000N 73.500W 0KM.

STA.	ARRIVAL	CAIC	RESIDUALS	FFST	DIST.	AZ.
CFC	05 28 52.6	0.6		0.7	31.8	340.4
FN-WV	05 29 03.2	-0.2		-0.2	33.1	350.7
HN-ME	05 30 05.5	-0.1		-0.1	40.4	5.4
PK-CN	05 31 06.7	0.1		-0.0	48.1	342.5
LAC	05 31 19.0	-0.7		-0.6	49.7	330.4
WHZYK	05 33 48.1	0.3		0.3	71.5	332.8
NAC	05 34 47.3	0.0		0.1	82.0	24.8

67 HERRIN TRAVEL TIME TABLES

ORIGIN	LAT.	LONG.	DEPTH (KM)	SDV	IT	STA
05:22:35.3	6.024N	73.069W	60. CAIC	0.4	5	7
05:22:26.1	5.907N	73.054W	0. REST	0.4	3	7

CALC				REST			
0	5	2	0	0	5	2	0
C	C	0	0	0	0	0	0
C	C	0	0	0	0	0	0
0	C	0	0	0	0	0	0
C	C	0	0	0	0	0	0

CH12 COVERAGE ELLIPSE: 95 EFF CEN1 CCNF..LEVEL SDV= 1.12
MAJCF 85.7KM. MINCF 52.6KM. AZ= 18 AREA= 1416 SQ.KM. FST

DATA SUMMARY

05:22:27.0 INPUT FOR EVENT 23 JUN 75
5.000N 73.50W 0KM.

SIA.	PHASE	ARRIVAL TIME	INST	PER	A/Z	MAGNITUDE	DIF	DIST
CEC	EP	05 28 52.6	SPZ	0.6	102.	5.41		31.8
FN-WV	EP	05 29 03.2	SPZ	0.8	15.	4.58		33.1
HI-ME	EP	05 30 05.5	SPZ	0.7	90.	5.05		40.4
FK-CNM	EP	05 31 06.7	SPZ	0.5	157.	5.76		48.1
IAC	EP	05 31 19.0	AE	0.7	19.	4.68		48.7
WR2YK	EP	05 32 48.1	SPZ	0.8	5.	4.30		71.5
NAC	EP	05 34 47.3	AF	0.7	5.	4.30		82.0

CETGIN	LAT.	LONG.	DEPTH (KM)	MAG	SDV	STA
05:22:35.3	6.034N	73.069W	60. CALC	4.64	0.50	6
05:22:26.1	5.807N	73.054W	0. REST	4.72	0.44	6

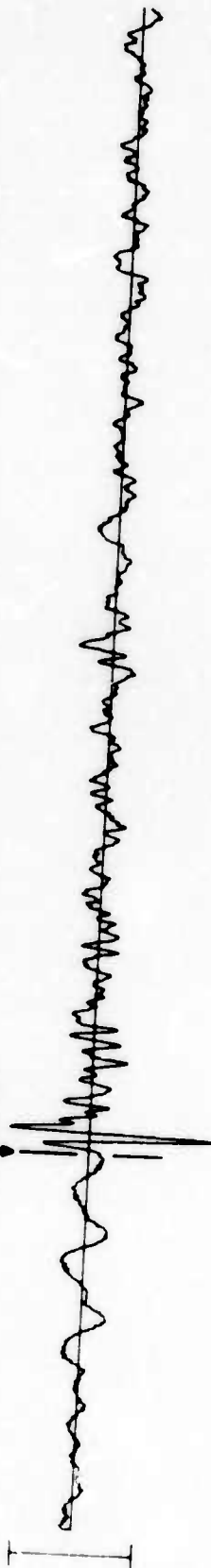
FK-CN NOT USED IN CALC FUN SP AVG. MAG.
FK-CN NOT USED IN REST PCN SP AVG. MAG.

RK-ON NOT USED IN EITHER THE CALCULATED OR RESTRAINED
SP AVERAGE MAGNITUDE CALCULATION BECAUSE ITS MAGNITUDE
EXCEEDS THE SDV PARAMETERS OF THE HYPOCENTER PROGRAM.

CPSO 23 JUN 75

SPZ
66.34 Mμ

05:28:52.0



SPR
29.20 Mμ



S
A

SPT
11.93 Mμ



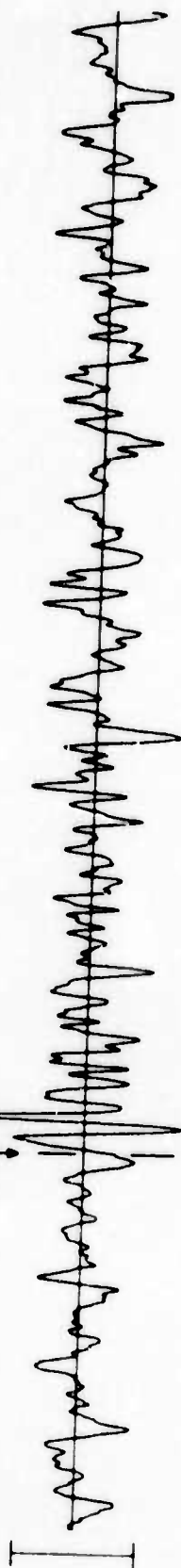
TIME



FN-WV 23 JUN 75

05:29:03.2

SPZ
12.01 MHz



SPR
10.32 MHz



SPT
7.51 MHz

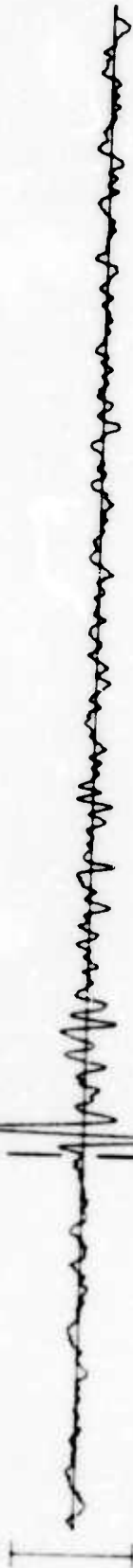


10 SEC

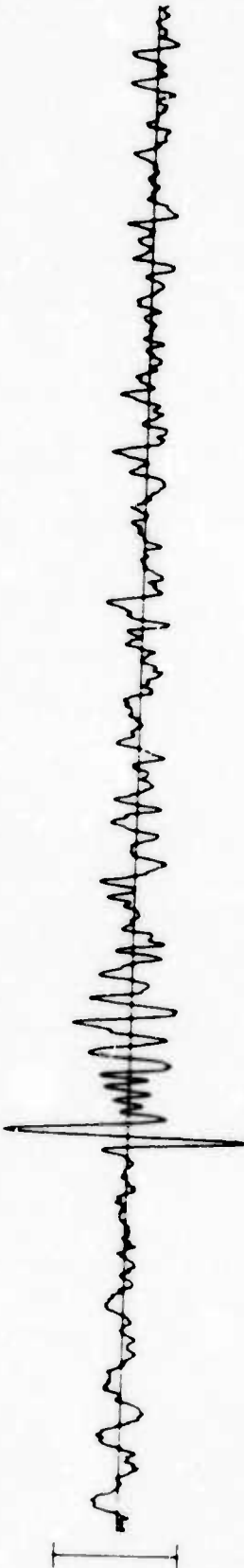
HN-ME 23 JUN 75

05:30:05.5

SPZ
67.07 MP

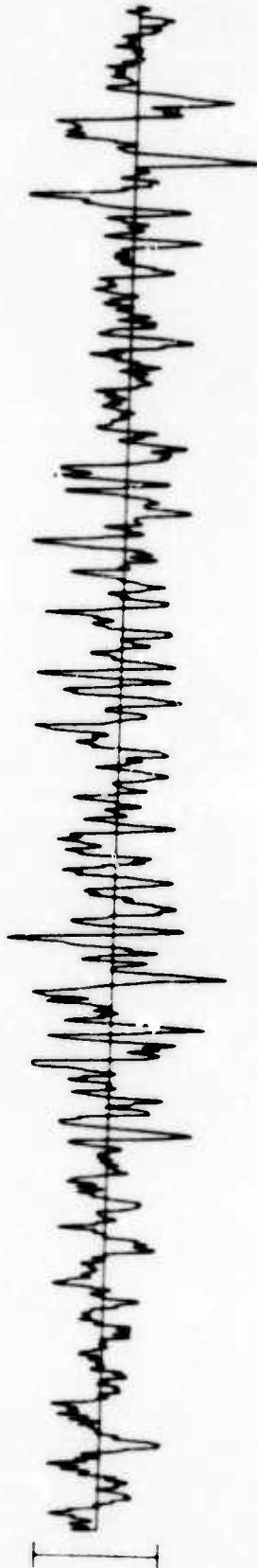


SPR
33.85 MP



∞
A

SPT
5.50 MP



TIME

10 SEC

05:30:10

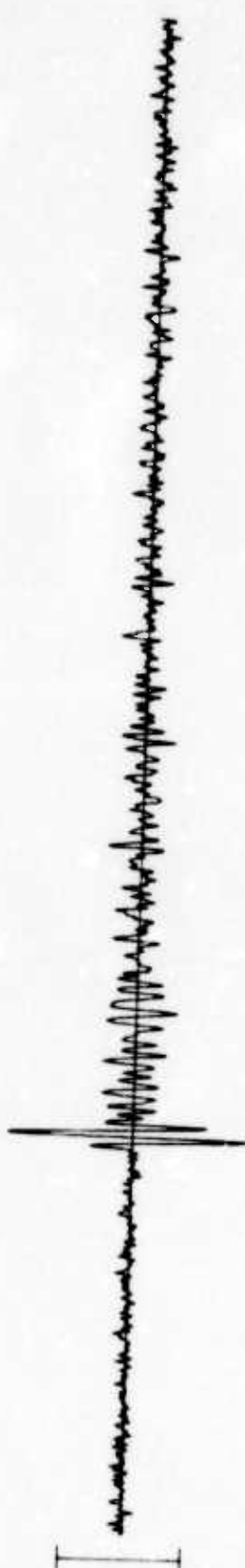
RK-ON 23 JUN 75

05:31:06.7

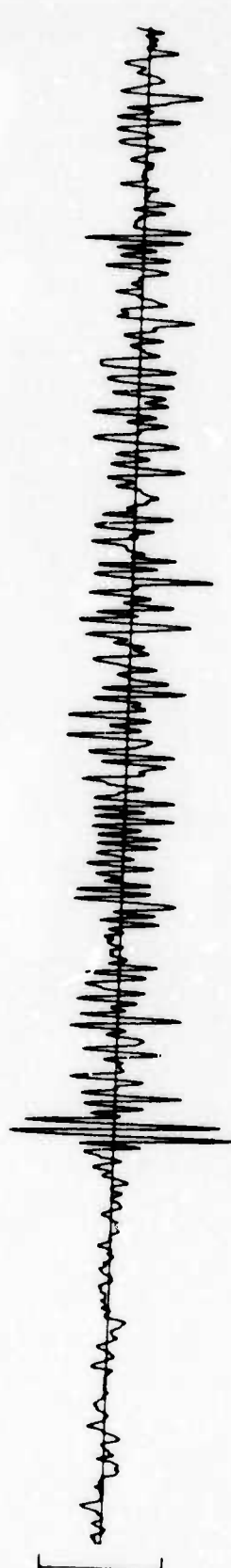
SPZ
153.23 MHz



SPR
76.71 MHz



SPT
26.54 MHz



10 SEC

WH2YK 23 JUN 75

05:33:48.1

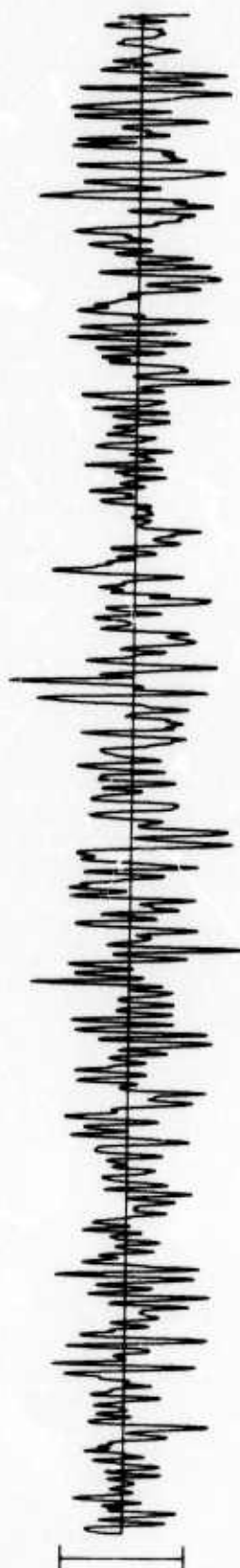
SPZ
4.16 MHz



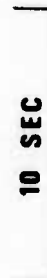
SPR
5.06 MHz



SPT
5.09 MHz



10 SEC



LASA

1.23 JUN 1975

2 5 22 27 5.0N 73.5W 33C C 5.0 103 COLOMBIA

3 5 31 18.6 LAO P 20.8 0.9 14.7 50.2 135.5

EPX 67995

BP-B 0.6-2.0 HZ

ABN 7.5

05.31.08.6

AB 80

FAB 62

WAB 64

PAB1 82

PAB2 61

PAB3 56

PAB4 72

10 SEC

11<

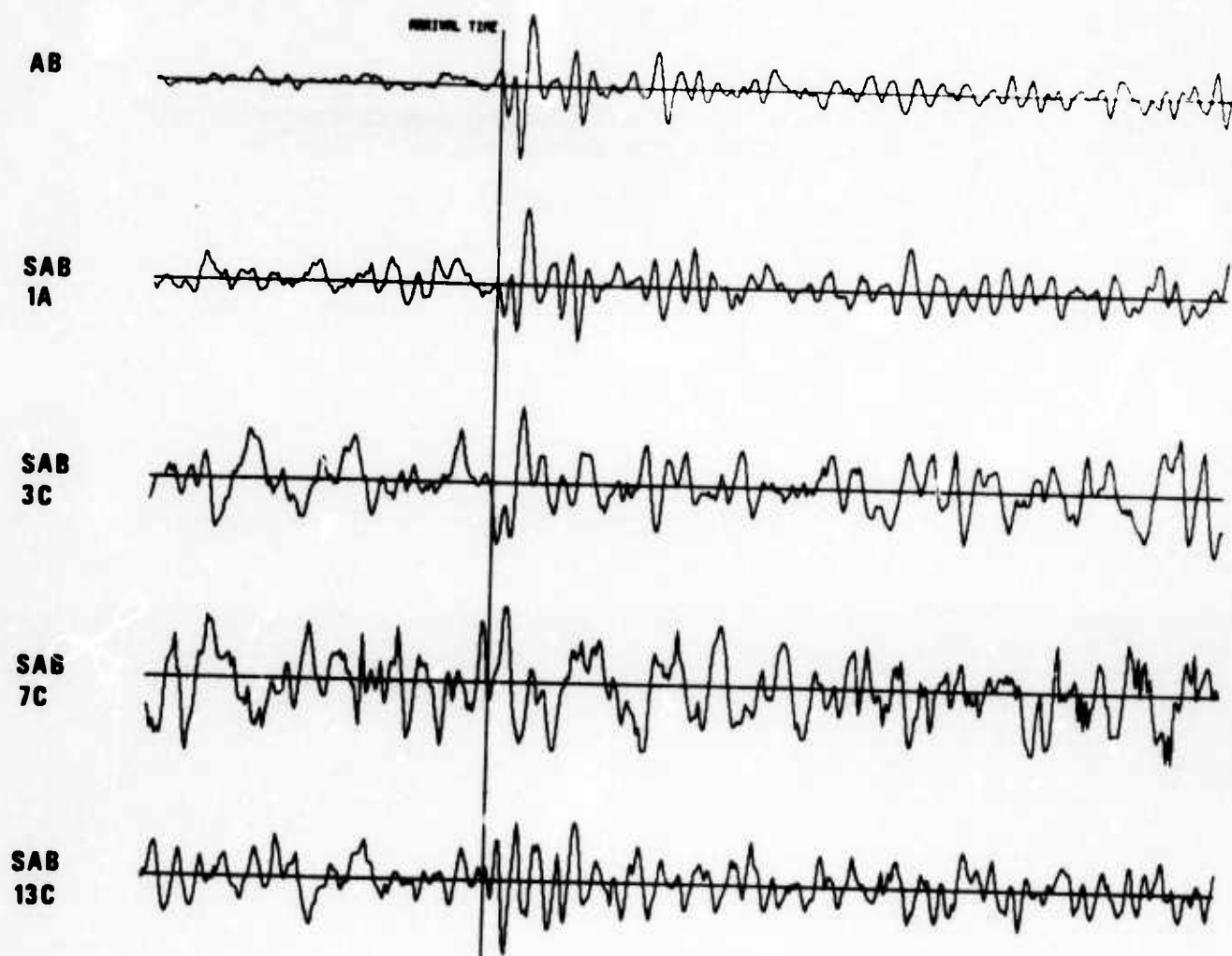
NORSAR EVENT FILE

23 JUN 75

EPX NO. 68030 ARR. 5.34.47.5 7.1N 72.2W 4.3MB 33KM

DIST = 80.4 AZI = 267.4 AMP = 3.6 PER = 1.1 UMETH 2

SCALE = 5 SECONDS



CPSO 23 JUN 75



TIME



FN-WV 23 JUN 75

LPZ
717.91 MHz



14
LPR
948.00 MHz



LPT
260.60 MHz



05:33:55

2 MIN

HN-ME 23 JUN 75



15<

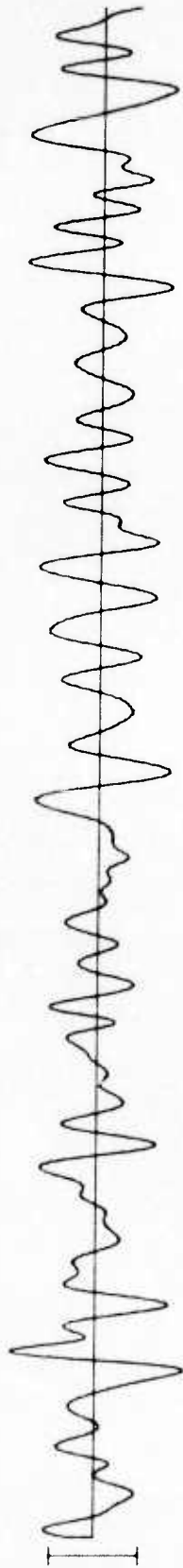


05:45:00

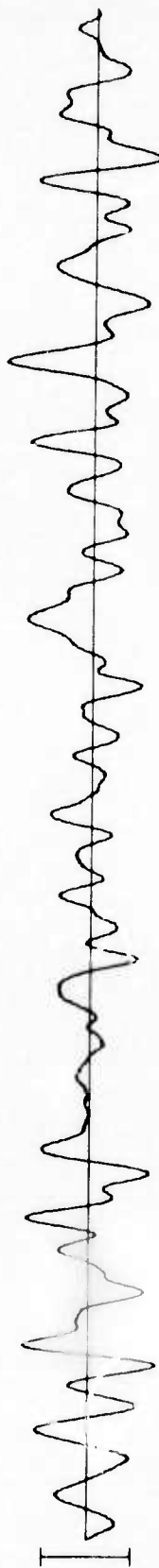
INSTRUMENT NOT RESPONDING PROPERLY

RK-ON 23 JUN 75

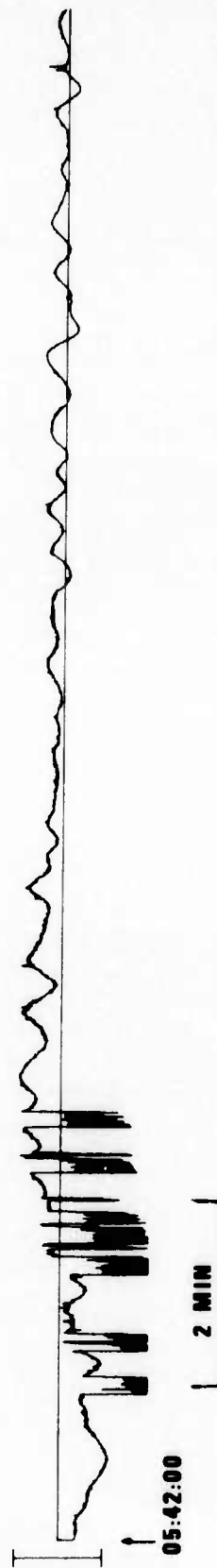
LPZ
1288.28 MP



LPR
1139.25 MP



LPT
5224.58 MP

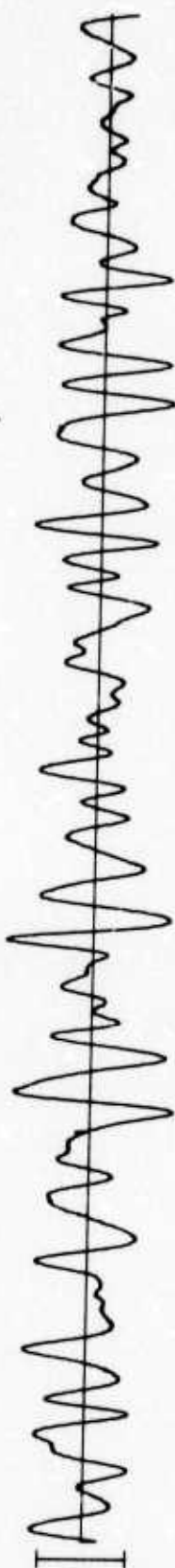


WH2YK 23 JUN 75

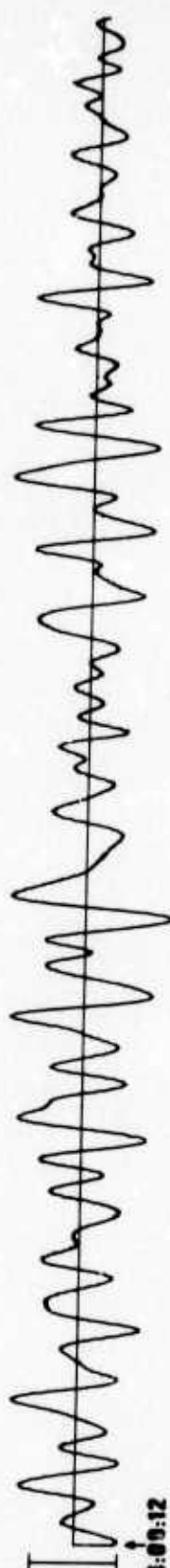
LPZ
132.51 MP



LPR
545.49 MP



LPT
592.99 MP



96:00:12

2 MIN

LASA LONG PERIOD BEAMS 23 JUN 75

LP VERTICAL

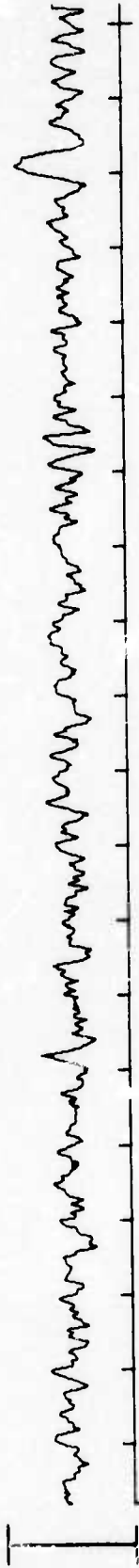
22.59 Mμ



180°

LP TRANSVERSE

101.28 Mμ



1 MIN



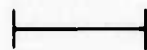
05:43:12

RADIAL CHANNEL NOT RECOVERABLE

ALPA LONG PERIOD BEAMS 23 JUN 75

LP VERTICAL

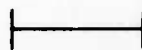
123.32 MHz



19

LP TRANSVERSE

144.70 MHz



1 MIN

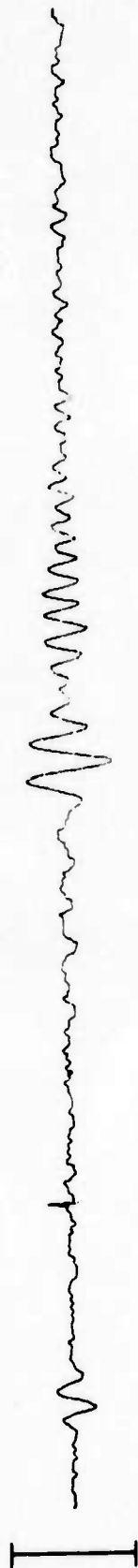


05:57:59

RADIAL CHANNEL NOT RECOVERABLE

NORSAR LONG PERIOD BEAMS 23 JUN 75

**LP VERTICAL
103.18 MP**



202

**LP TRANSVERSE
206.96 MP**



1 MIN

06:00:06

RADIAL CHANNEL NOT RECOVERABLE